

CLAIMS

1 - A fuel-reforming system for supplying hydrogen to a fuel-cell stack, especially one designed for a motor vehicle, of the type comprising a reformer device, a device for hydrogen enrichment of the reformat obtained from the reformer, and a device for purifying the reformat by reacting the carbon monoxide, characterized in that it contains at least two separate channels (a, b), each provided with at least one of the aforesaid devices and a control means (19, 39) for choosing one of the channels or all of the channels simultaneously.

2 - A reforming system according to claim 1, characterized in that each of the separate channels is provided with a reformer device, a device for hydrogen enrichment of the reformat obtained from the reformer, and a device for purifying the reformat by reacting the carbon monoxide.

3 - A reforming system according to claim 1, characterized in that each of the separate channels is provided with a reformer device, the separate channels being merged as a single channel provided with a common device for hydrogen enrichment of the reformat obtained from the reformers of the different channels, and a common device for purifying the reformat by reacting the carbon monoxide.

4 - A reforming system according to claim 1, characterized in that each of the separate channels is provided with a reformer device and a device for hydrogen enrichment of the reformat obtained from the reformer, the separate channels being merged as a single channel provided with a common device for purifying the reformat by reacting the carbon monoxide.

5 - A reforming system according to claim 1, characterized in that each of the separate channels is provided with a reformer device and a high-temperature part of a device for hydrogen enrichment of the reformat obtained from the reformer, the separate channels being merged as a single channel provided with a common lower-temperature part of the device for hydrogen enrichment of the reformat obtained from the reformer and a common device for purifying the reformat by reacting the carbon monoxide.

6 - A reforming system according to one of the preceding claims, characterized in that each of the separate channels is adapted to deliver a different hydrogen flow corresponding to a different power of the fuel-cell stack.

7 - A reforming system according to any one of the preceding claims, characterized in that the control means is also adapted to control the flow of fuel supplying the system, as a function of the channel or channels chosen.

8 - A method for control of the electrical power supplying an electrical propulsion unit of a motor vehicle equipped with a battery and a fuel-cell stack supplied with hydrogen produced by means of fuel reforming, characterized in that the flow of hydrogen supplying the fuel-cell stack is controlled as a function of the desired power, by using one or more individual reforming channels.

9 - A method according to claim 8, characterized in that a single reforming channel is used and in that the power delivered by the battery is added to the power delivered by the fuel-cell stack as long as the vehicle speed is below the speed that could be achieved without the battery.

10 - A method according to claim 8, characterized in that all reforming channels are used simultaneously and in that the power delivered by the battery is added to the

power delivered by the fuel-cell stack as long as the total power is below the maximum power delivered by the fuel-cell stack.